



## Clover dominant pastures

### Technical Note F21

Management level	★★★★★
Yield	★★
Quality	★★★★★★
Water use efficiency	★★
Reliability	★★★★
Versatility	★★

Where ★★★★★ is the highest rating.

### Purpose

Maximum nutritional value during a relatively short period from June to October, and low need for nitrogen fertiliser. Requires more management skill than pure ryegrass pasture, especially during establishment. Can carry up to 5 milking cows/ha during this period.

### Establishment

A prepared seedbed as for ryegrass and clover mixed pastures. Pasture can be sown from mid April to mid May. Inoculated seed can be broadcast on the surface or direct drilled at 5-10 kg /ha and rolled. Ryegrass seed at 2 to 4 kg can be added as a mixture to assist weed suppression early in establishment.

Early sowings are more prone to summer grass and broadleaf weed invasion, and late heat waves can kill seedlings. Later plantings are slow to establish.

### Water use

Amount of irrigation available is a primary consideration. Need a minimum of 4 ML/ha and able to apply each 3 days during establishment. Irrigate each 3 to 4 days for 6 weeks to ensure establishment, then often enough to avoid wilting (7 to 20 days, depending on location and soil type). Frequency increases as temperatures rise in spring.



### Soil fertility

Perform best on neutral soils with at least 50 cm topsoil. Adequate P, K and S are essential to the pasture performance. Common practice is to apply 125 kg/ha muriate of potash, 250 kg/ha superphosphate and 125 kg/ha urea at planting. Further nitrogen may not be needed.

### Diseases and pests

There are few pests of importance, and grazing often is sufficient for control.

### Growth and grazing

Grazing commences in 8 - 10 weeks. Normal practice is to graze in a rotational system, using a front and back fence. Grazing is managed to encourage clover growth. To promote growth of stolons it is important to graze sufficiently to allow sunlight to penetrate the sward, whilst avoiding overgrazing. Later in the season it is recommended that grazing is delayed until forage yields are high and animals are removed at a residual of about 15 cm. In practice the rotation varies from 20 - 40 days.

Pasture yield is typically in the range 4 - 10 t DM/ha. Variation in yield is largely associated with success of establishment. Forage quality is very high, with 30% CP, 25 - 30% NDF and a high intake factor associated with legumes. Milk yield is often about 1 - 2 L/cow/day higher than for ryegrass.

## Nutrient quality

Quality (% DM)	White Clover			Persian Clover
	Average	Minimum	Average	(one sample)
Crude protein	28.0	26.5	29.6	31.4
Starch	4.6	4.2	5.1	0.1
Sugar	-	-	-	0.9
NDF	26.4	25.3	28.7	34
Fat	4.6	3.9	5.3	1.9
ME (MJ/kg DM)	11.4	11.2	11.6	7.9
DM (%)	16.4	15.1	16.8	12

## Weeds

Broad leaf weeds can be a problem as they compete with the clover and are difficult to spray as most effective chemicals also damage the clover and herbs. 2,4-DB can be used effectively when clover seedlings have a minimum of 3 trifoliate leaves. A persistent weed problem may be best controlled by growing high density ryegrass.

## Animal health

Bloat is the major concern. The prevalence of bloat can be reduced by avoiding grazing hungry cows. Bloat oils can be sprayed onto pasture at 60 - 100 ml/cow/day, cows can be drenched with 20 - 40 ml of bloat oil/cow/day or rumensin capsules could be inserted into the rumen and remain effective for 100 days. Alternatively and more commonly, rumensin can be mixed into the bail feed at 20 mg/cow/day.

## Silage and hay

These pastures may be difficult to wilt as they have a high water content, but if this can be achieved and minimal leaf is lost, they make excellent silage. A silage inoculant is added to make up for the low soluble carbohydrate content of legumes. Excess amounts of such pasture available for ensilage are very rare.

## Further information

Contact the DAFF Customer Service Centre by Phone 13 25 23, or Email [callweb@daff.qld.gov.au](mailto:callweb@daff.qld.gov.au)

More technical notes can be found at: [www.dairyinfo.biz](http://www.dairyinfo.biz)

Lake (1995). Dairying Technical handbook.

Launders et al. (2010). Annual, Italian and short rotation ryegrass varieties 2010.

Callow et al. (2013) Successful Dairy Production in the Sub-Tropics

The project is funded and supported by the Department of Agriculture, Fisheries and Forestry and Dairy Australia.

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